29th Congress, 1st Session. Doc. No. 211. Ho. of Reps. War Dept.

MINERAL LANDS ON LAKE SUPERIOR.

LETTER

FROM

THE SECRETARY OF WAR,

RELATIVE TO

The mineral lands on Lake Superior, in compliance with a resolution of the House of Representatives of the 12th instant.

June 17, 1846.
Read, and laid upon the table.

War Department, *June* 16, 1846.

Sir: In compliance with a resolution of the House of Representatives, of the 12th instant, requiring the Secretary of War to furnish to the House "any report or reports in his possession of the agents superintending the mineral lands on Lake Superior, received since the 1st of January, 1846," &c., I have the honor to transmit herewith a communication from the Ordnance bureau of this department, accompanied by a report of A. B. Gray, esq., believed to be the only one required by the resolution.

Very respectfully, your obedient servant,

W. L. MARCY,
Secretary of War.

Hon. J. W. Davis,
Speaker of the House of Representatives.

Ordnance Office,
Washington, June 16, 1846.

Sir: In answer to the resolution of the House of Representatives of 12th instant, calling for any report or reports of the agents superintending the mineral lands on Lake Superior, received since 1st of January, 1846, together with the accompanying maps, if any, and which resolution you have referred to this office, I have the honor to transmit a report addressed to John Stockton, esq., superintendent of mineral lands, by A. B. Gray, esq., one of his assistants, with an accompanying map, which were handed in by Mr. Gray on the 15th instant.

These are the only papers this office can furnish which come within the

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terms of the resolution, as General Stockton's report of 22d of April last, which they were originally intended to accompany, was sent in answer to a resolution of the Senate, without a copy having been retained.

The resolution is herewith returned.

I am, sir, with great respect, your obedient servant,

WM. MAYNADIER,

Capt. of Ordnance, in charge of Ord. Bureau.

Hon. WM. L. MARCY,

Secretary of War.

WASHINGTON CITY, *March* 10, 1846.

SIR: In compliance with a desire expressed by you, I respectfully submit the following synopsis of explorations and surveys, together with other operations which came under my supervision during the past season, within the mineral district of Lake Superior.

The suggestion made in a report of last year, to have two plans alike, one for the Ordnance bureau, the other for the agency at Copper Harbor, in order to facilitate the duties of locating and leasing the mines, having met with the approval of the department, measures were immediately adopted to effect the same.

It then being spring, and the season fast advancing when our services would be required upon the lake, much time could not be devoted to this duty. I therefore forwarded to the Ordnance bureau, as soon as I could finish it, a draught of the mineral region, compiled from various sources, connected with our own hasty explorations and surveys of the preceding season. My time being limited, I could only retain a trace map of the same for the office at Lake Superior. This, however, was sufficient to enable us to project, within a few days after my arrival at Fort Wilkins, plans similar to that forwarded to the department, and upon which, with some degree of accuracy, we could lay down immediately a large number of locations which were daily being made; without which, great delay must have happened to the numerous explorers and adventurers who were anxious to select their tracts before the time expired as granted in the "permits" issued under the authority of the Secretary of War.

The duty of procuring instruments and other articles necessary for the agency being also imposed upon myself, required prompt attention. Not being able to procure already made such instruments as were wanted, and which must come within the limit of expenditure as allowed by the letter of my instructions, I contracted without further delay, with a competent instrument-maker, for their immediate construction. Proceeding to the military academy at West Point, I procured several astronomical and surveying instruments which it was thought might prove useful in determining positions for further facilitating the operations of the agency, and which, not being in use at that place, had been directed by the War Department to be turned over for this service. I receipted to the officer in charge for the same.

The small transit theodolite and compasses which I had ordered having been made, and believing that every thing necessary had been attended to, Mr. Eliason and myself (he having received instructions to report to me for duty) started for Copper Harbor.

At Detroit we remained but a few hours; long enough to get from the quartermaster four tents, for which I had an order, and for which I receipted. Upon reaching Mackinaw, we learned that the steamer "Scott" had just arrived from the Saut de Ste. Marie, and would not return there for several days, or until she had accomplished a trip to Green bay. We lost no time in trying to obtain a conveyance directly through, but our endeavors were fruitless. The Indians had gone off with their canoes, and the fishermen were also off fishing. There being no alternative but to await the movements of the steamer, and being politely invited by Captain Shonck, I went on board to remain until her return to the falls of the St. Mary's.

By this arrangement an opportunity was afforded me of visiting Green bay, and of meeting with persons who had been within the Menomonie district, and through, by the land routes, to Lake Superior. A portion of the country high up is represented as being favorable for farming purposes, but other parts of it as being barren and sterile. They believed, from the long ranges of rock, and from what they obtained from the Indians, that a part of it may be considered as a metalliferous district. Some very fine specimens of iron were seen, and a few of copper pyrites had been found.

From the north end of Green bay, called "Big bay de Noquet," the distance over to "Grand island" is about 35 miles, and the height of land some 300 feet above the level of the lakes. At both of these points good harbors are found, and excellent land, and no doubt both will become important positions. A good road through this section of country to the Anse settlement, touching at the "Nekomenou" river, or the lower carp, would greatly facilitate the communications to Fort Wilkins and the mineral region, during the long winter season of more than half the year, when all intercourse by water is cut off.

On the 3d of June we reached the Saut de Ste. Marie. Immediately upon my arrival at this place, I received the melancholy intelligence of the death of Mr. Miller, one of the gentlemen who had been appointed to assist me in the surveys and explorations.

After landing our instruments and camp equipage, I learned that the schooner Algonquin would sail either that evening or early next morning; but feeling it my duty to remain and attend the burial of Mr. Miller, I determined upon waiting for the next vessel, which was hourly expected from the upper end of the lake, and would sail in a few days for the Harbor.

Contrary winds, with stormy weather, which prevailed for several days, prevented any vessel from leaving the river until the afternoon of the 10th June, when we embarked on board the schooner Swallow, and reached the agency at Copper Harbor by the 13th, after some two weeks' detention on our route.

By the 17th we had completed, from the trace which I had taken out with me, a map sufficient to show the entire ground which was located or leased, and of which information had been received at the department, or the agency.

The constant rush of persons who were daily flocking to the agency with their permits for selections, rendered it necessary that duplicate maps should be immediately made, in order that every facility might be afforded those persons wishing to explore the country, in allowing them to use one as a trace map, whilst the other was in use by the officers of the agency.

Applications were immediately made for surveys by the different mining companies.

As soon as practicable the instruments were got ready; and, in accordance with the instructions from the Ordnance department, Messrs. Russell and Eliason were despatched to the mouth of Eagle river, with provisions and such men as could be spared from the island, for the purpose of commencing the line dividing lease No. 2, belonging to the "Lake Superior Company," from lease No. 5, held by the Pittsburg Mining Company. A few days after, leaving Mr. Schlatter to continue the protraction of the locations, and the finishing of the map in the office, I proceeded in my boat to Eagle river, where I found the parties which had preceded me already encamped. The two gentlemen had taken observations for the determination of the magnetic variation. Carefully adjusting the small transit theodolite, which I had intended to use myself in the surveys, a good observation was got, at one o'clock a. m., of the western elongation of Polaris, which gave the variation as 6° 42½ easterly, at this point. This I relied upon as being very near, from the fact of its being corroborated by azimuths of the sun taken for the same purpose. Next was established the *meridian south from the point of starting*, which point was the northwest corner of lease No. 2, and northeast corner of lease No. 5, and upon which were based a large number of locations. This north and south line was traced with the small transit for a short distance, and I then gave instructions to Messrs. Eliason and Russell to continue this boundary line three miles, when two parties should be formed—one to run due east, the other due west, and to follow the boundaries as described in the copies of leases which had been furnished by the Ordnance department.

Acting under the letter of instructions received from you, wherein you expressed that it was necessary that I should return to the office as early as possible after getting the assistant surveyors under way, I struck my camp, and returned to Copper Harbor.

From the continued pouring in of persons by every vessel that arrived, the pressure of business in the office became very great, which kept Mr. Schlatter and myself constantly occupied in draughting and mapping the different tracts of land which were daily being located. It was found necessary to renew the maps, from the constant use of them by persons tracing off their sections.

About the 10th of July, Messrs. Russell and Eliason returned to the agency, their provisions having been exhausted, and some of their men having left them.

By the instructions received from the Ordnance bureau, it will be seen that the government never contemplated defraying the *entire* expenses of surveys of the different leases. Indeed, the instructions contained in the "projét of regulations," as approved by the honorable Secretary of War, authorized the assistant in charge of the surveys to mark no lines or boundaries unless furnished with provisions, men, and conveyance by the lessee, the government furnishing the officer and instruments only; except in cases where it was found necessary, for the use of the office or department, that certain surveys should be made, when the surveyor or his assistants should have their entire expenses defrayed by the United States.

Having no authority to hire men and purchase provisions for the surveying parties during the summer, and not supposing it possible that the duties of the agency would increase to such an extent as they did, I took up

with me only a few men, who had been employed in surveys, and were accustomed to the use of the chain and the axe. These I afterwards found were indispensable to the surveying department.

The few men and small amount of provisions which could be spared from the agency, for the surveying parties sent up to Eagle river, were not sufficient to carry on the surveys, but the parties applying to have their boundaries established promised to furnish what was necessary. In a few days some of the men who had been sent by the agents of the mining companies to assist in running the lines became dissatisfied, and left the surveyor in the woods, with a number totally insufficient to carry on the work. These men made satements to the surveyor that they did not hire themselves to assist surveyors, or to be under other persons' directions, but they were hired to work in the mines, and be under the direction of a miner. Again, when one of the assistant surveyors sent to the agent of the company, for whom he was surveying, for provisions, he received a small supply, with an answer that they could furnish no more; that they had barely sufficient for themselves to last until they could get a supply from Detroit. This being the case, having surveyed until these occurrences, and done all they could under the circumstances, Messrs. Russell and Eliason returned to the agency. The former was then despatched to Portage lake, upon the application of Mr. Howe, by whom he was furnished with a conveyance, together with men and provisions, to make surveys of some tracts located there.

To run and mark the boundaries of the leases and locations, as authorized under the first part of the instructions from the department, was now found impracticable under existing circumstances. The increased number of tracts being daily selected and located, under proper authority, rendered it necessary that the agency should be in possession of certain points and lines upon which were based numerous permits, and that these should be immediately determined, to enable the agents in the office to project with some shadow of certainty upon the map such selections, thereby preventing as far as possible further collisions in the locations, which was now found to be the case in one or two instances, from the fact that the points of beginning were erroneously represented.

This being the case, about the 15th of July, as soon as could be got ready, Mr. Eliason, being furnished with a large boat, men, and provisions, at the government expense, was despatched to the Ontonagon river, in order to establish some lines upon which were based a large number of tracts, and upon which also a number of locations depended.

It meeting your views at this time, having got the map and selections sufficiently well established, from all the data within the possession of the office, I left Mr. Schlatter in charge of the same, and sailed in the schooner Algonquin for the Saut de Ste. Marie, which was reached after a fine run of 48 hours. At this place I had contemplated procuring some voyageurs and provisions to carry on without further delay the necessary surveys for the agency; but it was found almost impossible to obtain such men as were required, so great was the demand for them, caused by the numerous exploring parties in operation. I however obtained the best that could be found, together with some further supplies, and returned in the schooner to the agency, having been absent about six days.

On the morning of my return, Messrs. S. V. Talcott and A. T. Hale, who then had been but recently appointed to aid in prosecuting the in-

creased duties of the agency, arrived at the Harbor. I was now relieved of a part of the work which had devolved upon me in the office, and, in the course of two or three days, enabled to proceed up the lake towards the western part of the mineral district, and continue such surveys in that section as were further necessary for the service of the government in projecting a correct map, and of preventing further collisions in the selections.

Up to this date there had been some *three hundred and fifty selections* of tracts made and mapped, according to their descriptions, *since the opening of the agency in June.* Of these, about twenty were under three mile square permits, and the balance of one mile square each.

It was on the morning of the 14th August that we left Copper Harbor, with our two boats, Mr. Schlatter and myself, with Captain A. Talcott, in company, in the large whale boat, and Mr. Haviland in the smaller Mackinaw barge. In the afternoon of Sunday, the 17th, after three days coasting, our boat reached the mouth of Presque Isle river; and the next day Mr. Haviland got in, having parted company with us during the first night, it blowing too heavily for him, in his little craft, to venture out from the shore. On the 18th we took up some of the lines commenced by Mr. Eliason, and continued the surveys. He (from having been longer at the Ontonagon than was anticipated) had fallen short of provisions, and started a few days before from this place for the "La Pointe" settlement, some 40 miles to the westward.

For several days we were engaged in surveying about this river. Leaving Mr. Schlatter to continue the surveys, and, upon finishing all that was requisite, to join me at the Montreal river, I sailed for La Pointe, which place we reached in the night after a run of six hours, and where I procured such further supplies as were deemed sufficient to carry the parties through with their work, and back to the agency.

Mr. Eliason was directed to run out the lines upon Black river, and to connect with those upon Presque Isle; Mr. Schlatter to commence, on the Montreal, another point of beginning, from which a large number of square miles had been located.

On my arrival at La Pointe, I found, as in the summer before, that the numerous bands of Chippewas residing in the region ceded to the United States by the "treaty of 1842" had assembled to receive their annuity in goods and money from the government. The enterprising and talented superintendent of Indian affairs for this district, Mr. Richmond, had already been upon the ground, and but a few days elapsed before the whole body of Indians (several thousand in number) had received each their portion, and were cheerfully leaving for their winter quarters in the interior. Major Campbell was also here, this island being within the boundaries of his portion of your district, having left the Ontonagon but a few days before our boats had reached that river, on our way up.

We had frequent "talks" with the chiefs, and I recognised several of them whom I had seen the year before. Much that was interesting and important was gleaned from these Indians; and in our consultations with them, Mr. George Johnston was of great service to us. This well educated and intelligent "half-breed" is recognised as the head chief of the Chippewas, and possesses much influence with them; together with an extensive knowledge of their various habits and customs. Partly through his advice, and our desire to obtain all the information possible of this district of country, it was decided upon by Major Campbell and myself to return

to Copper Harbor by an inland route, and to avail ourselves of the opportunity offered by the Lac du Flambeau and Trout Lake bands going to their homes by way of the Montreal river.

It was so arranged that we should join them when they reached the mouth of this river, and to proceed from thence with them. Thus we would be enabled to obtain a sketch of the topographical features, together with an idea of the mineral character of that portion of the interior and south part of the district under your superintendency, and which had never yet been explored.

By the time of their arrival, the surveys had progressed as far as was practicable and necessary, and the parties were directed within a few days to complete the lines they were running, and to proceed to the agency at Copper Harbor with the boats and men, where I expected to join them about the time of their arrival.

On the afternoon of the 29th the canoes hove in sight, and by sunset a large number of the Indians had encamped on the right bank of the river below us. By 8 o'clock next morning we were all on the March, Major Campbell and myself being provided each with two able and trusty voyageurs, who had been accustomed to "pack" and travel through the woods. We were three days and a half making the "portage," estimated at about thirty-five miles by the old Indian trail from the mouth of the Montreal to "Portage lake," which latter is the head of a succession of small lakes extending for ten miles, and which are the head waters of some of the tributaries to the Chippewa river.

About two miles along our route from Lake Superior we crossed a high range of trap rock, bearing northeasterly and southwesterly. Descending rapidly half a mile further, we forded the main stream, and continued on the old trail to the southward, leaving the river to the east of us. Some ten miles further on, after rising from flat and swampy grounds, we came to another range of trap less distinct and regular than the first, although showing itself bare upon the surface in many places.

Again, in about eight miles, immediately after crossing a small stream running to the east, and which we supposed to be a branch of the Montreal, we ascended a high and elevated dike of trap rock, perfectly bare, with numerous veins of quartz passing through it—some of them from two to three feet in width. The trail passes directly over this range; and from our cursory examination, we judged it well worthy the explorer's attention, and have no doubt, from the surface indications noticed by us, will prove to contain veins of a metalliferous nature similar to those upon Kewaiwona point.

During our travel between the two last ranges, we observed scattered about large and isolated boulders of trap, and of the old red sandstone formation, at some time or other detached from the regular dikes, which appear to be nearly parallel with each other, and ranging in a N. 20° E. and S. 20° W. direction. Having suddenly descended from this last dike, we came to low ground, covered by a sort of prairie grass, with occasional groups of tamarack and spruce. A mile or two further we crossed a deep running stream, flowing easterly, 20 feet wide, and slightly colored red, though perfectly clear. Here we found one of the bands of Indians who had got ahead of us, their packs upon the ground, with their lines out, and having already caught a number of fine fish. This stream we took to be one of the main branches of the Montreal, and was represented

as heading in several small lakes about ten miles to the southwest. Pursuing our journey, we rose gradually upon a high granitic range of hills, the rock showing itself in many places; and, continuing in a southeasterly course, we came to another bold and rapid stream, 20 feet wide, flowing to the east, with a bed composed of heavy masses of trap and granite; encamped immediately on the south bank; the ground flat and moist. The next morning, about a mile and a half to the south, crossed the head stream of the Montreal, of about the same width, but sluggish, having alder bushes, with a fine grass meadow, on either side for 600 feet. Four miles more, over slight elevations and occasional swamps, brought us to the "Portage lake" of the Mississippi waters.

The country bordering this Portage path, aside from its mineral character, has but little to recommend it—little, indeed, in an agricultural view; the descent towards Lake Superior from the main dividing ridge being sudden and broken, with numerous cedar and tamarack trees. Occasionally good timber land is met with, and spots that may admit of cultivation. Maple, hemlock, birch, and pine, growing to a large size, are here and there met with upon the high grounds, and cedar of uncommon growth occurs along the swamps. The heavy rains that had fallen recently (before and during one or two of the days of our march) might have swollen the streams and caused the trail to appear in its worst state, but in our judgment it would be difficult to make even a passable road for horses or mules, unless by the outlay of a large appropriation of money. Should it be found practicable, however, to use such at this point, fine meadow grass may be had in abundance, and I doubt not will be found profitable, for the mode adopted at present of packing in the interior is a slow and expensive operation. This is the route taken by the Indians and traders going from La Pointe to Lac du Flambeau, Trout lake, and usually to Lac Vieux desert, although the chief of the latter lake and his band went this season, with their canoes, to the Anse, (Kewaiwona bay,) and from thence, by a portage of fifty miles, to their homes at the "Old Gardens."

Their packs usually are very heavy, from one hundred to one hundred and fifty pounds weight, and they are obliged to take advantage of as much water travelling as possible. The system of packing, too, is not confined to the men alone; but their women pack equally as much, and their children, down to four years of age, in proportion. Upon our expedition I saw an old squaw over seventy years of age with a pack weighing from 80 to 100 pounds, which she carried over the whole portage.

From this ("Portage lake") we took to birch canoes; and our little fleet, winding for 10 or 12 miles through narrow passes and small lakes of half a mile in width, landed on the east side of "Turtle lake," where it was necessary to make a short portage of a half or three-quarters of a mile over land to another lake.

Whilst the canoes were being carried across, and our camp pitched for the night, Major Campbell and myself started out with an Indian guide to examine the country around. Our course was southwesterly, and, after walking ten or twelve miles, returned about sunset. We passed through some beautiful valleys, and over gently undulating ridges, with heavy growths of maple, birch, hemlock, and pine; the soil, for culture, equalling any to be found on the shores of Lake Superior. Crossing over a heavy dike of trap, we noticed large boulders of quartz—one mass of a dull, milky hue, measuring eight feet in diameter; and in the trap rock was

observed several narrow veins of iron pyrites. Upon returning, our guide took us by an old wigwam, and showed us a beautiful specimen of the micaceous specular iron, weighing over one hundred pounds, which, he said, came from the neighborhood of the trap range that we had crossed. They permitted us to break off some pieces, which were brought to the Harbor by us.

The next day we continued on our course to the eastward. After a short distance by water, made another portage of 2½ miles with the canoes, part of it through a deep tamarack swamp, and launched them into the main branch of the Chippewa river. This stream appeared to be about 30 feet wide where we struck it, rapid and quite deep, and, I understand, can be descended from Trout lake in canoes the whole way to the Mississippi, with but few portages around falls or rapids.

In the evening we entered "Cross" lake from the river—so called by the Indians from its resembling *a cross in shape*—and encamped upon a high point of land jutting out and forming one of the arms of the cross. Upon this point are two large wigwams and several acres of ground cleared and cultivated, being the summer residence of "White Thunder," a tall and athletic looking Indian. He had reached home the day before from the payment at La Pointe, and received us in a very friendly manner. Here he lives with his brother, in the possession of all around him, no one seeking to molest or disturb him. Unlike civilized man in this respect, the Indian fears not his neighbor; he leaves his wigwam unprotected—his canoe, his net, or trap, without a guard—conscious that no brother of the tribe will disturb his property. It is a singular fact, that one Indian will not steal or plunder from another of the same band, although they all agree in taking what they can from the white man or stranger, and whenever an opportunity offers.

Our course up the river for about 10 or 15 miles, to this lake, was easterly, although the stream curved around in every direction, occasionally opening into small and picturesque lakes, surrounded by high land, with excellent pineries, and narrowing again to a width barely sufficient for the passage of a canoe.

After a detention of a day and a half at this encampment, (our guide stopping with the other Indians to join in a "medicine dance" for the cure of a sick pappoose,) we continued the ascent of the Chippewa, and in the afternoon, at 5 o'clock, came to Trout lake, where our tents were pitched upon the bank, in a beautiful pine grove, a short distance above "Kenisteno's" lodge, near the outlet of the lake.

Fine fish, with delightful water, is found here; and the small patch of ground, which was but rudely cultivated, had produced excellent vegetables. Several families reside upon its borders, and Kenisteno, the chief of the band, has his hunting grounds in this district.

Trout lake is from two and a half to three miles in length, containing numerous small islands, and may be called the head of canoe navigation of the Chippewa river.

The river to-day, in some places, was quite shallow and rapid, with occasionally rafts of drift wood, which obstructing our passage, caused us to lighten the canoes and lift them over. In the bed of the river, near the shoals, we saw quantities of the fresh water clam; some of them, upon the inside of the shell, displaying beautiful colors of a pearly lustre. Heavy growths of the wild rice were passed through in the swamps bordering the

river. The gathering of this rice in the autumn is usually performed by the squaws, in canoes, and it is an article of food much prized by the Indians. Observing a kind of bird rising in large numbers, one was shot, and I noticed it to be identical with the "sora," found at certain seasons in Virginia.

The next evening we reached "White Deer" lake with our canoes, after making several portages and passing up a small and crooked branch, with difficult swamps, through which we pushed ourselves. This small sheet of water—so called, according to tradition, from the circumstance of a white deer having been seen upon its bank—was supposed by us to empty into a branch of the Wisconsin river. Antoine (our guide thus far) has his winter quarters upon the borders of this little lake; and he, with his squaw and several children, are all that live in the neighborhood. Catching fish for sustenance and hunting for furs during the winter, which latter he takes into the settlements and trades off for provisions, appear to be his only occupation. He has a small clearing, with a comfortable wigwam; but, like most of these Indians, is very poor, and depends almost entirely upon his gun and his net for a subsistence. Here Antoine finding himself at home, thought it more pleasant than travelling through thickets and swamps, and, becoming a little fractious, declined going any further with us. He, however, decided to guide us some ten miles more, a part of it by water; which, if he had not done so, would have been a serious matter to us in the loss of time, the want of canoes, &c.

The second day after reaching White Deer lake, we bivouacked upon a high range of hills, near a small running branch, which the Indian told us emptied into the Wisconsin river. Our guide, Antoine, had now returned to his wigwam, leaving us to pursue our journey through a portion of country known only to the wildest Indians.

In the night I got some good observations for latitude with a small sextant and artificial horizon, which, together with a small pocket chronometer that I had taken along, gave us our position very nearly. Knowing, also, the position of Lac Vieux desert, from the observations of Captain Cram, which I had taken the precaution to procure, I immediately got a *course*, and early the next morning we were on our way homeward.

We had now, as was supposed, got about half way on the route through to the Anse settlement. During the day we forded several streams running to the south—one or two of them quite large, sixty feet wide. Tamarack swamps, from a half to two miles in width, were waded through; and in the evening, about sunset, he struck Lac Vieux desert, near the lower end of the lake. Half a mile further, after crossing the deepest running stream, which we took to be the Wisconsin river, some five miles before striking the lake, we fell upon an old trail, which was followed, it seeming to run in the right direction, and which brought us out.

One of the men started a fire; and soon the smoke, curling above the trees, attracted the attention of an Indian, who had gone over to one of the islands from the main land opposite. His canoe was shortly seen winding its way towards our camp in the dusk of the evening, and in half an hour he was with us, when we agreed with him to take us across to the head of the lake.

The next morning we crossed the lake in three birch canoes, our party consisting of Major Campbell, Mr. James Paul, (who had accompanied us on our route,) myself, and four men. Near the upper end of Lac Vieux

desert our canoes landed upon an island, where several acres of ground are cultivated by the Indians.

This is what gives to the lake the name of the "Old Gardens," or "old planting grounds;" and some very fine potatoes are raised upon the island. We found only two wigwams of Indians at this point, the main part of the band not having reached home from the "payment."

The land in the vicinity of this beautiful body of water is of very good quality, resembling that in the regions of the Anse and Grand island. Heavy growths of the white and yellow pine are seen upon the borders of the lake, and ridges, slightly elevated, of maple, birch, hemlock, and poplar, were noticed a short distance back. "Sugar bushes" (spots where sugar is made from the sap of the maple) appeared numerous. The water is limpid and pure, and the climate salubrious. One of the Indians gave us some specimens of iron pyrites, and told us that he could, in two days' march, take us to a fine vein of copper.

On the morning of the 12th September we left the waters of the Wisconsin, and commenced the descent to Lake Superior. From where our canoes landed, at the head of the lake, we struck upon an old Indian trail; and following it through swamps and ravines, over hills and high granitic ranges, we reached the Anse settlement on the fourth day. The trail was a very rough one, and, if it had not been for the quick eye of one of our Indian voyageurs, we should have found it extremely difficult to make our way through.

At the Anse, Major Campbell and myself secured each a good canoe, and, dividing our party, set out for Copper Harbor; he by way of the south coast of Kewaiwona point, and I taking the "Portage lake" route. The second night I reached the Harbor, having been driven before a violent gale for four hours, and through tremendous seas and breakers, which no open boat, other than a strong birch canoe, could have weathered.

I was perfectly satisfied that these bark canoes, when managed by skilful voyageurs, are the best boats used on the lake; and, indeed, as a proof it, the well known able voyageur, Toussaint Picquette, whom I had taken up with me in the early part of the season, and who guided me through all my voyages and explorations, particularly upon this night, during the perilous moments of the equinoctial gale, was finally lost on the 13th October, passing by the same coast, and through the same seas and breakers, in the yawl-boat, with the universally lamented Doctor Houghton.

Our trip through from La Pointe, although accomplished under many adverse circumstances, has enabled us to become acquainted with the interior of the district under our superintendency, and by which also we gained much information of use to the explorers and settlers as well as to the government.

Much of this extensive region, which has heretofore been supposed to be barren and worthless, now presents itself as a country of vast importance, with resources for producing great wealth, and offering facilities of which but few districts can boast. The geographical position of the lake, its mineral ranges, and fine natural harbors, pure and healthy atmosphere, beautiful and picturesque scenery, with its fish and waters unsurpassed in variety and excellence, all render it peculiarly attractive, not only to the settler for the purpose of agriculture, but to the explorer and adventurer in search of the riches embosomed within its rocks, the invalid, the traveller who is

desirous of acquiring scientific knowledge, and the admirer of the natural beauties and wonders of American scenery.

The entire northerly winds in the cold season pass over the whole body of a lake never frozen, become moderated, and cause vegetation to be further advanced in the spring than in many parts of a more southerly latitude.

In speaking, however, of the undoubted mineral wealth of this great country, and the rapid advance of some to fortunes; still it cannot but be feared that other persons, not having the same advantages in capital to apply, or mines to be worked with profit, will meet with disappointment and loss, and they would do well to be cautioned, by the following clear sighted remarks of the late distinguished geologist of Michigan, "to those persons who would engage in this business in the hope of accumulating wealth *suddenly* and *without patient industry and capital*, to look closely before the step is taken."

The general direction of the metallic ranges, as far as my observations have extended, have been northeasterly and southwesterly, making somewhat of a slight angle with the great mineral range, or belt, passing to the southward, with a course of about N. 20° E., and S. 20° W., comprising almost the entire distance from Hudson's bay to the Pacific ocean. The veins or lodes appear to be at nearly right angles to the ranges, although some have been found having the same course with them. Throughout the whole of this *mineral belt*, it is not supposed to be equally metalliferous, or to present features of a mineral character; but only in certain regions does it show itself upon the surface, as in the metallic districts of *Mexico* and *Texas*, *Missouri* and *Illinois*, and Lake Superior, leaving extensive intermediate distances apparently free from such indications. So likewise, in these lesser ranges of the latter mentioned district of Lake Superior, it cannot be expected that rich and valuable deposites, or lodes of ore, will be found in every section, although they may be entirely covered by mining permits. Some will be disappointed, while others will have more than reaped the richest harvests of their most sanguine expectations. Care in the economical expenditure of capital, with the exercise of good judgment, will produce handsome returns from many of the mines and diggings, which, it is feared, will at first be found unprofitable, through the mismanagement and misjudgment of those intrusted with conducting the operations of their companies.

That the Lake Superior district presents a metalliferous aspect, possessing metallic veins and deposites of extraordinary magnitude and richness is now beyond question; and, ere long, a comparatively short period hence this district, which has but so recently been purchased from the Indians and received the attention of the public, will, through the persevering energy and enterprise of the American people in developing the great resources which nature has bestowed upon it, be justly celebrated for its metallic wealth.

It is supposed by many that so much native copper, and in such large masses as are here found, present bad indications; and fear on the part of some has been expressed, that capital invested is likely to be lost.

Large pieces of native metal have been found in all the principal metalliferous regions of the world; and upon comparison with the rich mines of the Cordilleras of South America, the mines of Great Britain, and others the masses of native metal there found bear nearly a similar proportion

the richness and value of the ores along with which they were associated, as do the metallic masses of Lake Superior to the ores with which they have been assimilated. The ores of this district are of vastly superior percentage to almost any of a similar nature found so near the surface in other countries, with the same outlay of capital in exploring, working, &c. These mines seem alike in extent with the rivers, mountains, and lakes of America.

Specimens of almost every variety of copper have been found. Narrow veins of black oxide have been discovered in the gray sandstone near Huron river, and other ores disseminated through the same. Some of the deposites at "Big Presque Isle Point" appear to be very irregular, although the ores are apparently very rich. From its singular formation and variety of metals found, it will require further time, under the explorations now going on, to decide its value.

A small specimen resembling the antimoniated sulphuret of silver, together with some of the argentiferous galena ore, was found in the region of "Dead river;" and I am told, through a source which is entitled to be fully credited, that a fine specimen of native gold was picked up in the iron range south from the "Point," and which was attached to a fragment of the micaceous specular iron. All the quartz rock and indications of other gold regions have been noticed here.

Upon none of the tracts have furnaces as yet been erected, and such ore as is ready for smelting must be taken to some of the eastern cities to be smelted. The next season it is believed that several will be put up at convenient points in the mineral district, by some of the companies at work: time has not permitted them to do so before.

About five hundred persons remained in the mineral country through the winter; and at "Big Presque Isle Point," near Dead river; Lac La Belle, on lease No. 27, at Copper Harbor; all the tracts along the coast to lease No. 12, including Agate Harbor, Grand Marais, Eagle Harbor, and Eagle river; leases Nos. 7, 10, and 31, at Elm river; the Ontonagon, and on the tracts near Black river, (owned by "Chippewa Mining Company,") explorations have actually commenced, with prospects of raising much fine mineral by the opening of navigation in the spring.

The first trap dike west of the eastern boundary of the Lake Superior agency (which is Chocolate river) is seen a few miles northwest from it, and near the mouth of the "Lower Carp," running southwesterly, and covered with selections for mining purposes, for some fifteen miles from the coast. The next above, *along the shore*, where mineral veins have been discovered after passing "Big Presque Isle Point," appear in the granitic formation a short distance west of the *Chien Jaune* or Yellow Dog river, where a number of locations have also been made.

But the most extensive trap range—which, for a length of one hundred and ten miles, with an average breadth of four miles, is covered by mining selections—commences near the eastern extremity of Kewaiwona point, and, gradually diverging from the curve of the coast, crosses the Ontonagon in the vicinity of the "Forks." The termination of locations upon this range is about 20 miles west of the fork in the river, and about 12 miles south from the coast of the lake. Continuing westwardly, the selections appear again on the lake shore, commencing near the mouth of Iron river, and, covering the ranges of trap in the region of the Porcupine mountains, extend for some fifty miles, until crossing the Montreal river within a couple

of miles of its mouth. A short distance further the uplift of primiti rock disappears entirely from the surface, and is again found some te miles south, where we crossed it on our route from La Pointe to the An

My duties having carried me over many parts of these great ranges, o portunities were afforded me for closely observing their mineral feature and I find it impossible, from my own observations, to designate which the richest portion. Indeed, upon Portage lake, Elm and Misery river the Ontonagon, Mineral creek, Porcupine mountains, Presque Isle, a Black rivers, and upon the Montreal river, veins of native copper, togeth with sulphurates and carbonates, have been found, bearing upon the su face equally strong indications of metallic wealth as did those upon K waiwona point, when first discovered. Upon the Presque Isle, where w were encamped for some days, along the entire bed of the river for mil from its mouth, boulders and masses of rock containing native copper, wi several beautiful specimens of the yellow sulphate in the cellular parts the rock, were found.

Near the junction of the conglomerate with the trap rock, several vei were seen running into the bluffs, where the river had cut its way throug Crystals of phrenite were picked up, which, when broken open, we found to be filled with small octahedral crystals of bright native copp At a similar junction of the trap and conglomerate, upon the Montreal riv some ten or twelve veins were discovered within a short distance of ea other, varying in width from one to four feet. A large piece of native s ver, attached to a boulder of rock, was picked up in the bed of this riv some years ago, by a voyageur, and which must have come from one of t mineral ranges crossing it above. None of these points have been, as y thoroughly examined; and in but one or two instances only have sha been sunk upon the veins, so as to test their absolute richness, in compa son with their *mineral indications*, as they appear upon the surface.

Upon Kewaiwona point astonishing discoveries are daily being mad from the continued explorations in sinking shafts, running adits, and wor ing of the veins. Upon revisiting the "diggings" of the miners and e plorers who had commenced the season previous, I was particularly struc with the great advancement they had made under the many *unfavorabl circumstances* that had operated against them. At Eagle river it seeme almost incredible that within the short space of twelve months such im provements could have taken place. The year before, I had encampe upon the banks of this little stream, and, save a rude log hut thrown u near its embouchure into the lake, a mere temporary shelter for a couple o explorers, nought like the track of civilization was to be seen. A sort o blind trail wound its way through rough woods and over hills to the then but lately discovered veins of metal in the range which crosses the river, and which trail was made by the few who had visited them. Upon re visiting this spot now, all was bustle and commotion. Fine wagon roads had been completed, leading from the mouth of the river to the mines, and in the vicinity of the works. A saw-mill, large and comfortable quarters, extensive machinery for crushing and washing the ores, store-houses well filled, and large clearings, horses and wagons, all in operation, with one hundred men or more at work, gave it the appearance of a thriving vil lage; which seemed like the work of enchantment, from the strong contras it bore with its wilderness state but a twelve-month since.

Exploration shafts and drifts to some extent have been carried on, and

several hundred tons of ore have been raised, and is now being prepared for the final separation of the metal from the rock. Near the old vein of native copper and silver, at which they have been at work during the past year, another of apparently greater richness had been discovered, and means were adopting to prove its value.

Southwest of the "Eagle River works" about two miles, upon the adjoining tract under lease No. 5, a high cliff in the range of trap rock presents itself, and running into it several veins, with large masses of native copper with silver attached, have been discovered. They were preparing for extensively working those veins during the winter. At Eagle Harbor, Agate Harbor, Copper Harbor, Lac La Belle, and, indeed, in several other parts of the Keweenaw district, explorations are going on. Upon the tract under lease No. 15, east of Agate Harbor, a fine vein of calcareous spar has been opened, with a large mass of pure copper, estimated at about a thousand pounds or more in weight, showing itself within a short distance of the surface.

In September I visited, in company with the commissioners, Messrs. Tod and Bartlett, the vein of gray sulphuret of copper, but then lately opened, which crosses the narrow cape at the entrance to Agate harbor. This is beyond doubt a true lode of ore, with regular and well defined walls, and increasing in width and richness as the shaft descends. I am told by a gentleman, who tried the experiment, that some of the black looking powder which came from the ore of this vein was put into an iron ladle with charcoal, and when placed upon the fire of a blacksmith's forge, it was smelted and run off into pure copper.

At Copper Harbor large quantities of the black oxide were being raised, and a portion had been sent to market and sold. It is understood that this ore is peculiarly fitted for ready use, it not requiring to be smelted, but is in the natural state for producing the article of vitriol.

This vein passes through the rough conglomerate, and is rather difficult to dig at this point, although measures were taken to trace it in the hills south of Fort Wilkins, where it was believed it might be found to continue.

East of Kewaiwona point, and in the region of Dead (*Nekomenon*) and Chocolate rivers, miners have been sent by some of the companies to explore and prove the veins there discovered. Since reaching Washington, I learn that shafts have been sunk to a considerable depth, and large quantities of the *Galena ore* have been raised, in addition to that of the sulphurets of copper. In the analysis of a specimen of the former, by Professor Baily, of West Point, I am told it yielded some seventy per cent. of *lead*. These veins are the same which were noticed in my report to you of last year, and where no selection of a tract by miners or explorers had then been made. After going down some twenty or thirty feet with a shaft upon one of these *lead veins*, I understand that the galena (which was the ore raised) disappeared entirely, when a fine vein of the yellow sulphuret of copper was suddenly struck. I have no doubt, from the indications noticed, that rich *tin ores* also will here be found. Continued rich developments in that section are being daily brought to light; and from the further important discoveries, together with the large number of locations made there during the past season, it is confidently believed by distinguished geologists, as well as by the explorers who have visited it, to be a valuable portion of the mineral region of Lake Superior.

Near the mouth of the lower carp, some three or four miles north from

Chocolate river, small veins of *galena*, similar to those seen by me the season before, associated with sulphurets of copper and iron, have been found, and fine specimens procured.

These veins of lead, although actually found opening as such upon the surface of the ground, and in much larger proportions than any other metal associated with them, still their peculiar formation, together with what has now resulted from going down some twenty or thirty feet with a shaft on "Big Presque Isle Point," leads many to the conclusion that none of them will be found permanent, but that they have a copper or some other metallic basis which they will run into.

Some ten or twelve miles southwest from the coast, upon this range of hills, large masses of iron ore were seen exposed upon the surface, and specimens were furnished me by Mr. Samuel Peck, who explored this region, and brought the first intimation of it to Copper Harbor. This ore is of the micaceous specular iron, and from its degree of richness, together with the peculiar resources afforded in the vicinity, it is believed that this iron may be worked to great advantage and extensive profits.

As far as my duties have led me throughout the mineral region, all due diligence and skill have thus far been used by the lessees in developing and working the mines; and indeed it is believed that in any action of Congress, with reference to this district, the policy will be to do justice to those early pioneers who have, at a heavy risk, thrown in their capital and their energies in bringing out this once supposed worthless region. A pre-emption to such part of each lease as is amply sufficient to protect their interests from speculators, and persons who have not been instrumental in developing the resources of this region, and to enable them to work the mines so long as they may be found profitable, is expected by them all, and certainly will be found to be in accordance with the better condition, prosperity, and welfare of the country.

That impassable water barrier, the Saut de Ste. Marie, which had so long shut out a knowledge of the great natural resources of this lake, and the attention to which, by Congress, has been so faithfully urged by the settlers, was somewhat temporarily overcome by a few enterprising citizens during the past summer. A *road* was cut some three-quarters of a mile through the woods, around the falls, and vessels hauled over. Six of these, with a steam propeller, were carried over by this land portage the past season, and it is understood that steamboats are preparing for the same purpose.

The rapid progress and comparatively immense immigration to Lake Superior calls for the immediate attention of the government for the advancement, in its power, of facilitating and protecting the lives and the property of the people. Communications should be opened by roads and trails, where other advantages do not exist. Light-houses should be erected to guide the numerous vessels that are now floating there, and other improvements for their safety are required.

The Indians are daily becoming aware of the importance of the mineral region to the United States, and I have no doubt that the increasing developments going on in the adjoining district will cause them to hold the rest of that portion bordering Lake Superior much higher in value than they did those lands at the last treaty.

Having been amongst them, and explored through a large portion of their grounds during the last two seasons, I have noticed particularly the effect

had upon them in this respect by voyageurs and adventurers circulating with them, and offering rewards for making known their discoveries.

About one hundred and fifty miles of coast upon this lake (from "Fond du Lac" to the Canadian boundary line) of United States territory is still in the hands of the Chippewas, and much of it is known to be equally valuable with portions of that already explored and reported upon, and which fact is known to many of the bands inhabiting that section. I would respectfully suggest, therefore, the importance of an early purchase of the balance of this district, and of its being sectionized and surveyed by the government.

The mineral region of Lake Superior, in which mining operations are going on, having become so extensive, much time is taken up in going from one point to another. The more minute observations and detailed reports which will be required from the assistants cannot be made during the season for going the rounds and examining the mines. Two or three subdivisions, under one general supervision, would, therefore, have great advantages over the present system. A sub-agent, with one competent assistant, (for draughting and planning representations of the progress of the works, for the principal superintendent,) placed at the most prominent points of operation, would be a better guide for conducting the interests of the government.

Now that so many different locations are actually being worked, each assistant might make it his special duty to report upon everything connected with the progress of the explorations in his immediate section of country. Prompt attention to such in each assistant would insure to the government its dues, and would certainly meet with the entire satisfaction of the miners and explorers.

The expenses in establishing and retaining these sub-districts would not be greater than the present cost of the agency; and, in a very short time, the annual appropriation will be but small, compared with the amount received through the six per centage of metal accruing to the government.

MAY 4, 1846.

The map herewith submitted was projected and drawn from the explorations and surveys made by the agency at Copper Harbor, from surveys made under the direction of S. V. Talcott and myself, with some corrections taken from the trace politely furnished by the Hon. Commissioner of the Land Office, of surveys conducted by the late Doctor Houghton and Judge Burt, and from charts of the coast of the lake, by Bayfield. Many of the lakes and rivers of the interior are put down from Nicollet's map of the upper Mississippi, and from my own notes of information procured on the routes followed by Major Campbell and myself.

Upon this map will be found projected some 740 selections for mining purposes, covering about 1,149 square miles of ground. 71 are under permits granting three miles square, and 669 of one mile square each. Of these, 91 selections (3 under three miles square and 88 under one mile square grants) were made in the vicinity of Dead and Chocolate rivers; 48 (one square mile each) near Cypré and Huron rivers; 2 (one square mile each) at the head of the Anse; 163 (33 under three miles square and 130 under one square mile grants) between Manitou island and Portage lake; 161 (8 under three miles square and 153 under one mile square grants) from the Portage to the Ontonagon river; and 275 (29 under three miles square and 246 under one mile square grants) have been made west

of the Ontonagon, including those in the vicinity of La Pointe and the "Detour." The extent of territory that might have been located under the above 740 grants is somewhat greater than that actually taken up, and which happens from a portion of some locations falling into water; a portion being covered by other locations from choice of the locator to secure the balance of a tract, and again by a portion being lost through the want of correct maps, by the explorer, of the districts wherein he was locating, and which, from the projection of this map after surveys were made, was found to be previously taken.

The attached list (marked A) will show which tracts, under their respective numbers, conflict, and such portions of them as are covered; with remarks, &c. Those that are entirely covered do not appear marked on the map, but that portion of a tract which is not interfered with is protracted accordingly. The list marked B shows the lease numbers of the War Department, with their corresponding numbers given by the agency on Lake Superior, and as numbered upon the map, so far as we have been advised of the leases granted under the certificates of the agent, and which have been furnished by the Ordnance office.

From the latter, together with thirty-nine not upon this list, it will be seen that, of the 740 selections, 372 have been *leased.* Thirty-nine have only one number, which is that of *the lease*, they having been granted prior to adopting the plan of numbering the selections upon the lake. The balance of the 740 have been made since last June.

From the books of the office, it appears that locations under numbers 4, 5, 228 to 245, inclusive, 201, 248, 306, 307, 640, 714, have been withdrawn entirely, and consequently are not placed upon the map.

The surveys made by the agency have been done with all due regard to economy and despatch, although obstacles unavoidably arose, and many disadvantages occurred, which operated against them. In some instances, in accomplishing the survey of a few miles, the distance of eighty or a hundred had to be travelled; and, from the absence of quicker modes of transportation than that of small boats and canoes, much time was necessarily lost. Nevertheless, the number of conflicts in the locating of "permits" is comparatively small when taken into consideration with those not conflicting, the many adverse circumstances, together with the want of time for a correct survey of the country, and the wish and disposition of the agents to do everything in their power to advance and facilitate the interests of the people.

I remain, general, very respectfully, your obedient servant,

A. B. GRAY,
Assistant Superintendent, and Surveyor.

General JOHN STOCKTON,
United States Superintendent Lake Superior Mines.

A.

Locations which have been found to conflict with previously located tracts, or which have been withdrawn entirely.

No.	Name.	Residence.	Remarks.
6	W. J. Wells	Detroit	All lost; conflicts with No. 227.
7	T. B. Biddle	Do	All lost; conflicts with No. 227.
8	F. Norvell	Do	One-half lost; conflicts with No. 227.
9	D. Phenix	New York	One-quarter lost; conflicts with No. 277.
10	C. Bester	Washington	One-quarter lost; conflicts with No. 277.
11	J. A. Smith	Do	One-sixth lost; conflicts with No. 277.
52	J. Winder	Michigan	One-third lost; conflicts with No. 227.
163	H. Atwood	Mount Clemens	All lost; covered by lease No. 140.
164	A. Ashley	Do	All lost; covered by lease No. 137.
165	R. Miller	Richmond, Va.	All lost; covered by lease No. 34.
166	J. P. Roberts	Newburg	All lost; covered by lease No. 34.
266	N. Sargent	Philadelphia	All lost; covered by lease No. 134.
269	J. M. Williams	- -	All lost; covered by lease No. 259.
295	J. Hanna	Pittsburg	All lost; conflicts with Nos. 9, 10, 11, 12, 13, 14, 79, and 373.
301	W. Hale	Detroit	One-half lost; conflicts with No. 258.
302	F. A. Harding	Do	One-half lost; conflicts with No. 258.
303	E. Brooks	Do	One-half lost; conflicts with No. 258.
373	E. Raume	Ontonagon	One-third lost; conflicts with No. 295.
374	W. W. Spalding	Copper Harbor	All lost; conflicts with No. 295.
342	W. Wyckoff	Mount Clemens	One-third lost; conflicts with No. 341.
405	W. R. Gormly	Pittsburg	One-third lost; conflicts with No. 246.
404	W. H. Boyer	Reading, Pa.	Seven-eighths lost; conflicts with Nos. 446, 99, 317, and 315.
406	W. W. Dallas	Pittsburg	Three-quarters lost; conflicts with Nos. 246 and 248.
407	G. R. White	Do	All lost; conflicts with Nos. 99, 100, 246, and 248.
410	T. Ten Eyack	Pontiac	One-third lost; conflicts with No. 595.
450	D. D. Davis	Copper Harbor	All lost; conflicts with Nos. 99, 315, and 393.
451	E. Jones	Do	All lost; conflicts with Nos. 99, 100, 247, and 393.
454	B. Swaney	Hanover, O.	All lost; conflicts with Nos. 51, 52, 55, and 438.
461	J. M. Parsons	Marshall	One-half lost; conflicts with No. 247.
462	H. A. Pillotson	Do	Three-quarters lost; conflicts with Nos. 100 and 101.
477	A. W. Spies	New York	All lost; conflicts with Nos. 84 and 311.
478	B. Banks	Marshall	All lost; conflicts with Nos. 84 and 88.
479	M. Seule	Do	All lost; conflicts with Nos. 311, 315, and 317.
438	H. Hubbard	Chicago	One-third lost; conflicts with No. 295.
490	W. W. Hudson	New York	One-half lost; conflicts with No. 255.
504	H. Smith	Monroe	Two-thirds lost; conflicts with No. 295.
503	J. Q. Adams	Do	All lost; conflicts with No. 295.
523	E. Kingman	New York	One-third lost; conflicts with No. 295.
524	H. B. Loomis	Do	Conflicts with No. 295.
525	S. P. Lyman	Do	One-quarter lost; conflicts with No. 295.
535	B. H. C. Linn	Washington	One-third lost; conflicts with No. 227.
543	J. Robinson	Pittsburg	Two-thirds lost; 3 mile tract; conflicts with Nos. 101, 102, 103, 104, 105, 106, 107, 108, and 249.
544	G. H. Whitney	Cambridge	One-quarter lost; conflicts with Nos. 105, 371, 372, 375, and 376.
545	H. D. Oliphant	Boston	Three-quarters lost; conflicts with Nos. 105, 107, and 372.
546	A. Sheppard	Do	One-half lost; conflicts with Nos. 372 and 375.

A—Continued.

No.	Name.	Residence.	Remarks.
547	F. A. Elliot	Boston	One-half lost; conflicts with Nos. 107 and 108.
553	J. H. Sinclair	Detroit	One-quarter lost; conflicts with No. 371.
555	A. F. McReynolds	Do	One-half lost; conflicts with Nos. 370 and 376.
552	J. R. Bowman	Pontiac	Three-quarters lost; conflicts with Nos. 100, 101, and 248.
550	W. D. Wilson	Detroit	One-quarter lost; conflicts with No. 103.
549	D. E. Harbaugh	Do	One-half lost; conflicts with Nos. 101 and 103.
595½	M. Mann	Marshall	All lost; conflicts with Nos. 393 and 394.
596½	E. C. Noble	Do	One-half lost; east half; conflicts with No. 394.
613	W. Smith	-	All lost; covered by No. 729.
611	J. Smith	-	Three-quarters lost; conflicts with Nos. 695 and 734, and lease 29.
612	A. Grover	-	All lost; conflicts with No. 729, and lease 320.
608 *h*	A. Rudolph	Pittsburg	Three-quarters lost; conflicts with Nos. 370, 375, and 376.
625	P. M. Everett	Jackson	One-quarter lost; conflicts with No. 370.
622	A. J. Baker	Middleport	One-third lost; conflicts with No. 16.
626	John Hawks	Rochester	Three-quarters lost; conflicts with Nos. 617 and 623.
626½	J. Ketchum	-	One-fifth lost; conflicts with No. 617.
627	J. Peters	-	All lost; conflicts with No. 227.
631 *s*	A. Legar	-	One-quarter lost; conflicts with No. 108.
635	W. S. Richmond	Adrian	One-half lost; conflicts with No. 461.
648 *e*	B. L. W. Chapman	Mackinac	One-quarter lost; conflicts with No. 375.
633	G. S. Rockwell	Jackson	One-quarter lost; conflicts with No. 370.
XXV	J. Beaugrand	-	All lost; conflicts with No. 227.
654	J. Deckey	Pennsylvania	One-third lost; conflicts with Nos. 655, 656, and 668.
182	J. Sahl	Copper Harbor	All covered by 3-mile lease.
201	A. C. Cheever	-	Withdrawn.
640	- - -	-	Withdrawn, and now numbered 700.
5	W. P. Ruggles	-	Withdrawn.
714	- - -	-	Withdrawn.
4	- - -	-	Withdrawn.
228 to 245	- - -	-	Withdrawn.
306 to 310	- - -	-	Withdrawn.

B.

Lease numbers of the War Department, with their corresponding numbers, given by the agency on Lake Superior.

Location No.	Lease No.	Name of lessee.	Location No.	Lease No.	Name of lessee.
2	115	Joseph Pettit.	70	77	A. H. Hanscom.
3	301	N. D. Meneclear.	71	74	C. K. Green.
6	89	W. J. Welles.*	72	76	J. Norvell.
7	90	T. B. Biddle.*	73	75	J. Howard.
8	91	F. Norvell.	74	138	W. L. Helfenstein.
9	109	D. A. Phœnix.	75	317	G. H. Campbell.
10	147	C. Bestor.	76	56	A. W. Magill.
11	148	J. A. Smith.	78	265	T. L. Wharton.
12	110	J. V. Watson.	79	345	W. G. Alexander.
13	111	J. Higgins.	81	156	W. Haddix.
14	112	R. A. Richards.	82	157	J. B. Campbell.
15	127	A. Morrell.	83	158	L. Richardson.
16	113	C. Bush.	84	160	J. K. Moorehead.
17	114	T. W. Tucker.	85	168	W. B. English.
18	219	T. Titus.	86	334	J. B. Moorhead.
19	226	M. Coryell.	87	166	B. Ford.
20	264	L. W. Bickley.	88	46	L. W. Tappan.
23	376	G. Decker.	89	325	J. May.
25	11	H. Whitney.	90	326	P. McCormick.
26	126	J. Childs.	91	255	J. B. Murray.
27	209	R. D. Cutts.	92	327	T. Scott.
28	192	G. Kemble.	93	328	L. Tibbatts.
29	193	H. Morris.	98	78	J. L. Hempstead.
30	194	W. Kemble.	99	40	H. E. Davis.
31	195	G. W. Morris.	100	42	H. Edwards.
32	210	J. Blunt.	101	43	C. Stoddard.
33	41	A. H. Ward.	102	45	J. Tappan.
34	202	W. H. Hudson.	103	44	C. Tappan.
35	228	L. Waterbury.	104	331	T. Myers.
36	229	J. M. Waterbury.	105	162	J. Myers.
38	38	J. Henshaw.	106	321	C. Painter.
39	230	T. Cowles.	107	161	N. Voegtly.
40	37	W. Ward.	108	163	G. E. Warner.
41	60	R. Adams.	113	320	J. Paul.
43	129	W. Robinson, jr.	114	154	J. E. Boyd.
44	131	C. H. Humphrey.	115	155	E. Hinkin.
45	99	S. Peck.	116	39	L. P. Saurez.
46	98	A. Sherman.	117	69	J. De Ruyter.
46½	57	W. R. Bernard.	120	340	W. Chamberlain.
47	122	R. Chapman.	121	95	M. X. Harmony.
48	186	George F. Randolph.	125	68	G. K. Sistare.
48½	86	A. B. Paul.	131	63	John Burgess.
49	100	A. Jones.	132	85	C. Y. Richmond.
50	50	C. Weckware.	133	266	O. D. Conger.
51	51	R. S. Rice.	134	267	M. Titus.
52	52	J. Winder.	135	268	P. S. Titus.
53	53	M. Bates.	136	269	J. H. Titus.
54	54	A. Harvie.	137	96	T. Chapin.
55	55	R. E. Roberts.	138	271	G. R. Griswold.
56	248	P. Ord.	139	145	E. J. Roberts.
57	306	C. Colton.	141	372	C. Richmond.
58	307	J. E. Skinner.	142	373	J. Marsh.
61	79	L. S. Humphrey.	144	146	G. Moran.
67	58	H. Geisse.	145	261	T. McCully.
68	72	J. H. Kenzie.	146	232	B. H. Brewster.
69	73	G. C. Bates.	149	312	P. G. Dox.

*See "Remarks," list A.

B—Continued.

Location No.	Lease No.	Name of lessee.	Location No.	Lease No.	Name of lessee.
150	87	E. Learned.	310	335	D. S. Bacon.
151	88	C. G. Learned.	320	70	N. Updegraff.
152	97	J. H. Hitchcock.	321	344	J. Painter.
156	368	S. Maynard.	322	319	J. W. Webb.
167	81	J. Brown.	323	270	G. O. Brastow.
168	80	E. Prentis.	324	296	C. W. Cutter.
169	149	R. S. Coxe.	325	222	W. Hays.
170	150	C. Bradley.	327	104	C. E. Dewey.
171	151	M. St. C. Clarke.	328	105	E. Williams.
172	152	C. J. Nourse.	329	106	E. Vandeventer.
173	93	G. Lambly.	330	107	W. Moon.
175	92	W. H. Howe.	331	108	D. D. Dewey.
179	153	J. Darrah.	347	276	J. B. Dumont.
180	207	J. M. Sterling.	348	277	De W. C. Littlejohn.
181	206	S. G. Clark.	349	281	G. H. Littlejohn.
199	346	F. Webster.	350	279	J. B. Waring.
205	116	T. Tyler.	351	278	F. J. Littlejohn.
206	117	J. Wynne.	352	282	F. S. Littlejohn.
207	118	T. Donoho.	353	283	E. Willis.
215	360	D. Munger.	354	280	C. Willis.
216	362	C. T. Gorham.	364	369	A. Ellicott.
217	361	H. W. Taylor.	365	370	E. Elicott.
218	169	H. Jacobs.	368	371	B. Elicott.
222	337	E. B. Wales.*	369	190	J. P. Murphy.
227	179	C. Mendenhall.	381	141	H. N. Monson.
246	302	W. C. Sterling.	382	316	J. B. Watson.
247	303	W. P. Clarke.	383	220	L. Palmer.
248	304	W. W. Prentice.	384	236	R. Hall.
249	305	H. S. Skinner.	385	237	J. Lilly.
250	208	W. P. Clarke, jr.	386	238	A. Fisk.
251	62	C. G. Hammond.	387	239	D. Kemball.
252	61	R. Gillet.	388	240	N. Waterman.
253	71	H. Ledyard.	389	241	E. W. Stone.
254	315	J. R. Grout.	390	242	A. Randall.
255	298	G. Williams.	391	243	S. Curtis.
256	300	A. Williams.	392	244	J. H. Sears.
257	366	N. P. Stewart.	393	47	V. Brown.
258	367	H. C. Thurber.	394	48	E. E. Davison.
261	119	J. F. Webb.	395	245	A. W. Benton.
265	356	S. L. Harris.	396	363	E. A. Raymond.
269	299	H. J. Buckley.*	397	246	M. Kimball.
277	123	C. Henshaw.	404	139	W. H. Boyer.*
278	180	R. Choate.	405	332	W. R. Gormly.*
279	254	J. H. Adams.	406	350	W. W. Dallas.*
280	181	C. Scudder.	407	333	G. R. White.*
281	165	C. M. Painter.	411	132	T. Palmer.
282	167	J. Painter.	415	247	J. Alexander.
283	329	J. Graham.	424	347	D. A. Hall.
284	330	R. Swann.	439	59	T. H. Perdue.
285	164	A. B. Haines.	440	339	J. T. Gleason.
292	358	F. W. Davis.	441	82	C. B. Marvin.
299	308	J. S. Farrand.	442	83	M. P. Marvin.
300	309	W. A. Richmond.	443	84	T. H. Hawley.
301	310	W. Hale.	448	297	J. P. Teller.
302	311	F. A. Harding.	453	94	S. T. Douglass.
303	214	E. Brooks.	456	101	C. Kidder.
304	233	J. R. Brodhead.	457	102	W. Robinson, jr.
305	159	A. Livingston.	458	103	G. Crosby.
308	336	J. B. Dutton.	461	172	J. M. Parsons.

* See "Remarks," list A.

B—Continued.

Location No.	Lease No.	Name of lessee.	Location No.	Lease No.	Name of lessee.
462	318	H. A. Tillotson.	547	144	F. A. Eliot.
467	338	A. L. Leland.	553	354	J. H. Sinclair.
468	175	Levi Bacon.	555	355	A. T. McReynolds.
469	184	W. T. Nelson.	556	170	W. W. Holley.
470	173	A. B. Mathews.	557	171	J. H. Holley.
471	203	B. O. Williams.	558	273	P. Vandervoort.
472	185	O. F. Wisner.	559	183	W. M. Clarke.
473	221	J. C. Smith.	560	215	N. Jarvis.
481	120	R. C. Weightman.	561	204	J. J. Coddington.
482	341	G. C. Thomas.	562	212	R. C. Wetmore.
483	342	J. Adams.	563	249	N. Kimball.
484	343	S. B. Bourman.	564	178	J. Nutter.
485	121	H. B. Sweeny.	565	250	H. W. Childs.
489	174	E. Bacon.	567	284	C. H. Talcott.
490	216	W. W. Hudson.	569	196	J. A. Constant.
491	235	R. Niles.	570	197	J. Tuckerman.
492	201	J. M. Oakley.	571	187	J. L. Boswell.
493	252	J. Otis.	572	213	F. W. Ogsbury.
494	251	A. H. Howard.	573	285	R. Benson, jr.
496	253	R. K. Page.	574	177	E. Blunt.
497	198	H. M. Smith.	575	199	E. Douglass.
498	231	M. B. Maclay.*	576	200	A. Douglass.
499	351	R. M. Morrison.	577	182	J. A. Iselin.
500	135	J. C. Thurber.	578	211	N. G. Kortright.
501	352	A. E. Wing.	579	188	W. J. Staples.
502	353	C. Noble.	580	313	H. B. Fay.
505	257	E. Jewett.	581	205	J. C. Ayres.
506	272	T. W. Patchin.	584	124	C. W. Borup.
507	189	R. D. Hubbard.	585	125	C. H. Oakes.
508	64	T. Lamb.	586	256	T. Card.
509	65	M. H. Simpson.	588	176	W. M. Thompson.
510	66	H. Swift.	589	274	G. Mendenhall.
511	67	J. Stickney.*	590	348	H. E. Perry.
512	262	R. Bell.	591	324	S. Clark.
513	217	H. T. Titus.	593	133	J. Ganson.
514	263	W. McConnell.	594	130	O. B. Dibble.
515	259	J. Hoy, jr.	595	294	D. Parker.
517	218	H. A. De France.	595½	322	M. Munn.*
519	260	G. W. Guthrie.	596	293	J. Palmer.
529	295	T. Snowdon.	596½	323	E. C. Noble.
530	374	F. Richmond.	597	292	S. P. Dinsmore.
531	375	P. Morey.	598	291	A. Haynes.
532	136	H. Olmstead.	599	290	L. E. Dunn.
533	191	G. R. Hazewell.	601	289	B. Dyer.
536	365	Welles Haws.	602	288	F. Blackman.
538	227	T. Olcott.	602½	286	J. L. Tucker.
539	223	T. Joy.	603	287	J. B. Marsh.
540	224	L. Joy.	605	234	J. E. Dow.
541	225	C. T. Chamberlain.	606	364	S. G. Watson.
543	128	J. Robinson.	608	258	A. Randolph.
545	142	H. D. Oliphant.	651	349	J. B. Hunt.
546	143	A. Shepherd.			

* See "Remarks," list A.

B—Continued.

Location No.	Lease No.	Name of lessee.	Location No.	Lease No.	Name of lessee.
462	318	H. A. Tillotson.	547	144	P. A. Elliot.
467	328	A. L. Leland.	553	304	J. H. Sinclair.
468	175	Levi Bacon.	555	349	A. T. McReynolds.
469	184	W. T. Nelson.	556	170	W. W. Holley.
470	122	J. B. Mabrey.	557	171	J. H. Holley.
471	200	R. O. Williams.	558	213	P. Vanderveort.
472	185	G. E. Weaver.	559	182	W. M. Clarke.
473	217	J. C. Smith.	560	218	N. Jarvis.
481	120	R. C. Weightman.	561	204	J. J. Coddington.
482	221	G. C. Thomas.	562	219	R. C. Weems.
483	249	J. Adams.	563	240	Z. Kimball.
484	245	S. E. Norman.	564	178	J. Nutter.
485	191	R. B. Sweezy.	565	250	H. W. Cahill.
486	174	E. Reed.	567	251	C. H. Talcott.
490	210	W. W. Hudson.	569	196	J. A. Constant.
491	236	R. Niles.	570	187	J. T. Nolerman.
492	201	J. M. Oakley.	571	187	J. L. Boswell.
493	239	J. Orr.	572	213	M. W. Gregory.
494	231	A. H. Howard.	573	236	R. Benap, Jr.
495	233	R. K. Page.	574	177	E. Short.
497	198	H. M. Smith.	575	199	R. Douglass.
498	231	M. R. Marley.	576	200	A. Douglass.
499	231	R. M. Morrison.	577	182	J. A. Justin.
500	136	J. C. Thurber.	578	217	N. C. Horrigan.
501	232	A. C. Wing.	579	182	W. J. Staples.
502	233	C. Noble.	580	218	H. B. Fry.
505	227	R. Jewett.	581	205	U. C. Ayres.
506	272	T. W. Tyndin.	584	174	C. W. Dorsey.
507	189	R. D. Hubbard.	585	195	C. H. Oakes.
508	61	T. Lamb.	586	226	T. Card.
509	65	M. H. Simpson.	588	176	W. M. Thompson.
510	66	H. Swan.	589	214	G. Mendenhall.
511	67	J. Stanley.	590	348	H. E. Perry.
512	202	R. Bell.	591	221	S. Clark.
513	217	H. T. Tims.	593	138	J. Gaston.
514	203	W. McConnell.	594	139	O. B. Dibble.
515	220	J. Hoy, Jr.	595	204	D. Parker.
517	218	H. A. De Ramee.	596	332	M. Munn.*
519	230	G. W. Guthrie.	600	223	J. Painter.
520	205	T. Snowden.	596	333	E. C. Noble.
520	214	R. Richmond.	597	222	S. P. Dinsmore.
521	215	P. Morey.	598	221	A. Haynes.
522	196	H. Olmstead.	599	220	I. E. Dunn.
523	191	C. E. Haswell.	601	220	B. Dyer.
526	205	Welles Hawe.	602	223	P. Blackman.
528	227	T. Olson.	602	226	J. L. Tucker.
529	223	T. Joy.	603	217	J. R. Marsh.
530	224	L. Joy.	605	224	J. E. Dow.
541	225	C. T. Chamberlain.	606	231	S. C. Watson.
543	126	J. Robinson.	608	228	A. Randolph.
545	142	H. B. Oliphant.	621	245	J. B. Hunt.
546	143	A. Shepherd.			

* See "Remarks," list A.